

season, the animal becoming then *de facto* closed to shooting for the rest of the open season.

This is where the shoe pinches the heel of the military man very hard, as also, of course, that of his civil brother when shooting on areas outside of his jurisdiction. To remedy a state of affairs which is undoubtedly a real grievance, I suggest that the number of individuals to be shot in a particular block or area in any one year should be allotted in a fixed proportion *throughout each month of the close season* for that animal, say 2 or 3 or 4 per month, according to the total number notified as shootable during that season, any balance remaining from any one or more months being, of course, carried forward and distributed throughout the remaining months of that shooting-season.

This would give the hot-weather military sportsman, who in pursuit of his favourite pastime is ready to put up with many and decided discomforts, an equal chance with his civil brother, who is not so tied during the cold weather. The suggestion is made simply with the idea of giving a fair chance to all.

But I would suggest a further step. I would allot a certain proportion of the head of a particular species to be shot in an area to the local District officials, the balance going to the outside sportsman. The District officials could be left to make their own arrangements as to when their proportion of head was to be shot, but I think that in the case of the outside sportsmen the number to be shot should be allotted throughout the shooting months, so as to give an equal chance to all the block-holders.

No reflection is intended on the District officials by any of these suggestions. They are made only in the interests of that particular quality all Englishmen pride themselves in possessing—Fair Play.

#### 4. On the Moulting of an Arctic Fox (*Vulpes lagopus*) in the Society's Gardens. By R. I. POCKOCK, F.R.S., F.L.S., F.Z.S., Superintendent of the Gardens.

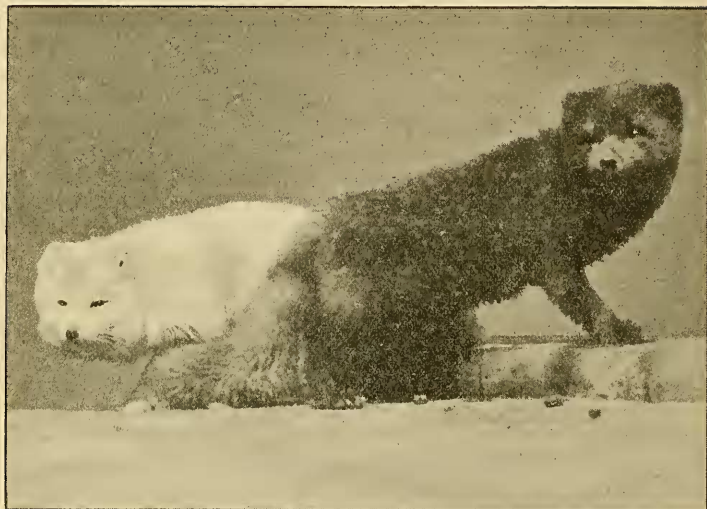
[Received October 24, 1911: Read November 7, 1911.]

(Text-figures 6-13.)

The following account of the seasonal change of colour and the phases in the moult of an Arctic Fox (*Vulpes lagopus*), which had been living in the Society's Gardens since 1904, is based on observations made during the summer of 1906.

The white winter coat was retained unchanged until the middle of May. In the latter half of that month it began to come off on the outside of the fore and hind legs, on the back of the ears, on the muzzle, and on the sacral region in front of the root of the tail. By the end of May the sacral patch had extended as a narrow strip down the thigh, joining the moulted area on the outer side of the lower portion of the leg. The hair was thinning on the back of the head, and as the white coat parted with the movements of

Text-fig. 6.



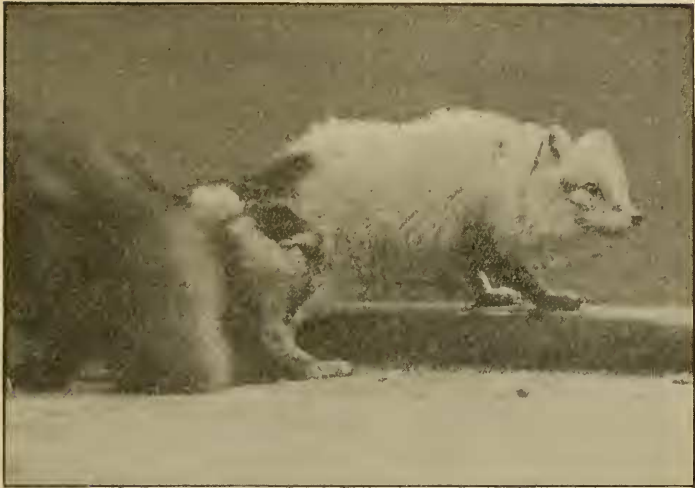
Arctic Foxes showing the persistence of the thick coat in both "white" and "blue" varieties until the early summer. May 5th.

Text-fig. 7.



Arctic Fox showing the beginning of the moult. June 5th.

Text-fig. 8.



Arctic Fox showing the shedding of the white coat over the hind quarters,  
June 15th.

Text-fig. 9.



Arctic Foxes, the white specimen showing the further shedding of the coat over  
the hind quarters and along the back. June 18th.

Text-fig. 10.



Arctic Fox showing the shedding of the white coat along the back. June 18th.

Text-fig. 11.



Arctic Fox showing the white coat adhering to the tail, to the throat, and to the sides of the body. June 21st.

Text-fig. 12.



Arctic Fox with moult nearly complete, the white coat still adhering to the tail, but on the body reduced to a small patch behind the shoulder. July 5th.

Text-fig. 13.



Arctic Fox with the dark coat almost entirely replaced by the new white coat. October 16th.



the animal, the dark summer coat could be seen beneath. This condition lasted until about the middle of June. The change thereafter proceeded more rapidly. The coat was moulted all along the middle line of the back from the root of the tail to the nape of the neck. It then came off on the sides of the neck, the shoulders, and the belly, leaving a white mat on the throat, the sides of the body, and tail. By the end of the first week of July the patches on the throat and on the sides were much reduced, but the tail was still white. By the middle of July the animal was in full summer coat. The summer coat lasted without clearly marked change for about two months only, but, owing to the gradual nature of its transition to the winter coat, it was not possible to state exactly when the change began. Like the winter coat, the summer coat was moulted. It did not, however, come off in tufts, but was gradually replaced uniformly all over the body, the first indication of the replacement being an apparent increase in the thickness and paling in the colour of the summer coat. To ascertain that the summer coat was really being shed, it was found necessary to catch the animal, when by pulling the coat it was found that the dark hairs were coming away.

The changes in the colour and coat of this animal were watched for several years after 1906, when the photographs were taken, and practically no variation in the details of the process or in the time of their occurrence was observed.

In a blue variety of the Arctic Fox which lived for several years with the one above described, the coat was shed in the same way and at the same time as in the other, but there was no change of colour except such as accompanied the replacement of the faded winter coat by the darker-tinted new summer coat. For neither of these specimens was the locality known; but several specimens of the species from Hudson's Bay that the Society possessed in 1910-1911 turned white in the winter.

I am indebted to Mr. P. W. Farmborough, F.Z.S., for permission to reproduce the unique series of photographs illustrating the facts recorded in this account, with the exception of text-fig. 13.

5. On the Moulting of the King Penguin (*Aptenodytes pennanti*) in the Society's Gardens. By DAVID SETH-SMITH, F.Z.S., M.B.O.U., Curator of Birds.

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(Plate I.\*)

Under the above title Mr. W. E. de Winton published a paper in 1898<sup>†</sup> in which he described the moult of a specimen of *Aptenodytes pennanti*, which the Society at that time possessed, the only previous paper on the moult of Penguins being one on the change

\* For explanation of the Plate see p. 62.

† P. Z. S. 1898, p. 900.